

**A New Genus and Species of Milliped  
from Northern California**  
(Polydesmida : Vanhoeffeniidae)

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During the past few years, the authors have conducted a survey for millipeds in northern California. In addition to actual field collections, many duff samples have been taken and processed by the use of a Berlese funnel. This method has yielded many interesting arthropods, one of which represents an undescribed genus and species of a polydesmoid milliped. Duff samples have been processed from a number of different floristic communities, the most productive being situated on north facing slopes where the sun's rays do not dry out the duff too much.

In the north coast ranges, where areas are shrouded in fog much of the year, one can find rich duff samples on almost any slope, regardless of directional exposure to the sun's rays. The area where this new entity was collected is inhabited by pines, oaks and coastal chapparral in general. Coast Redwood, *Sequoia sempervirens* (D. Don) Endl., is abundant in draws and canyons in the vicinity.

**Bidentogon** Buckett and Gardner, new genus

TYPE SPECIES.—*Bidentogon helferorum* Buckett and Gardner, new species.

DIAGNOSIS.—Segments of body 19 in both male and female; body size small, less than 10 mm long; head globular, densely microsetose, as wide as body; antennae about width of 1 socket apart, antennal segment 6 largest; collum suboval, narrower in width to posterior part of head and partially covering same; body segments with 3 transverse rows of 10, 10, and 8 setae, respectively, each seta borne on wide, low tubercle; paranota moderate, projecting laterad from mid-height of segment, lateral margins of segments 5-toothed, 3 or 4 teeth bearing a lateral seta; repugnatorial pores moderate in size, round, located posteriorly on distal margin of paranota; segment 17 with paranota slightly reduced, segment 18 with paranota almost obsolete; terminal segment with mucro extending beyond anal valves; third legs of male with segment 3 greatly swollen; gonopods simple, with large, rounded coxa and broad, laminate telopodite which divides distad into 2 caudally projecting branches, the seminal canal opening apically on the lateral branch.

**Bidentogon helferorum** Buckett and Gardner, new species

(Figs. 1-7)

HOLOTYPE MALE.—Segments 19; length 6.3 mm; width 0.7 mm; color chocolate-brown. Head broad, with mandibular cheeks extending beyond lateral margins of

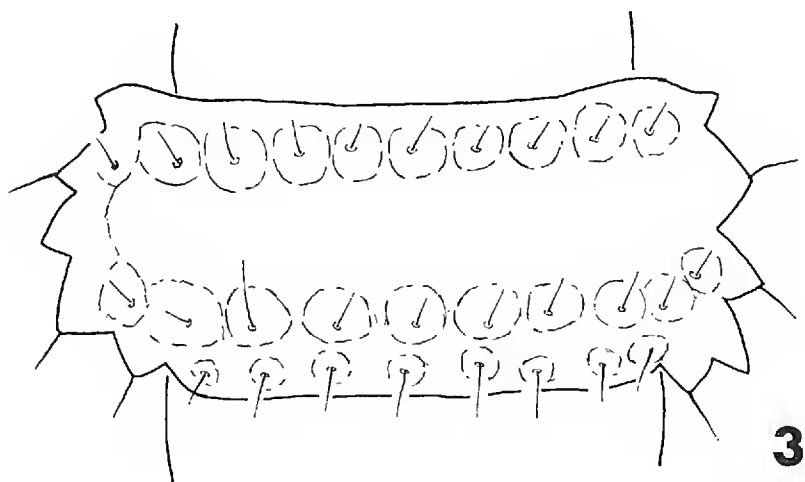
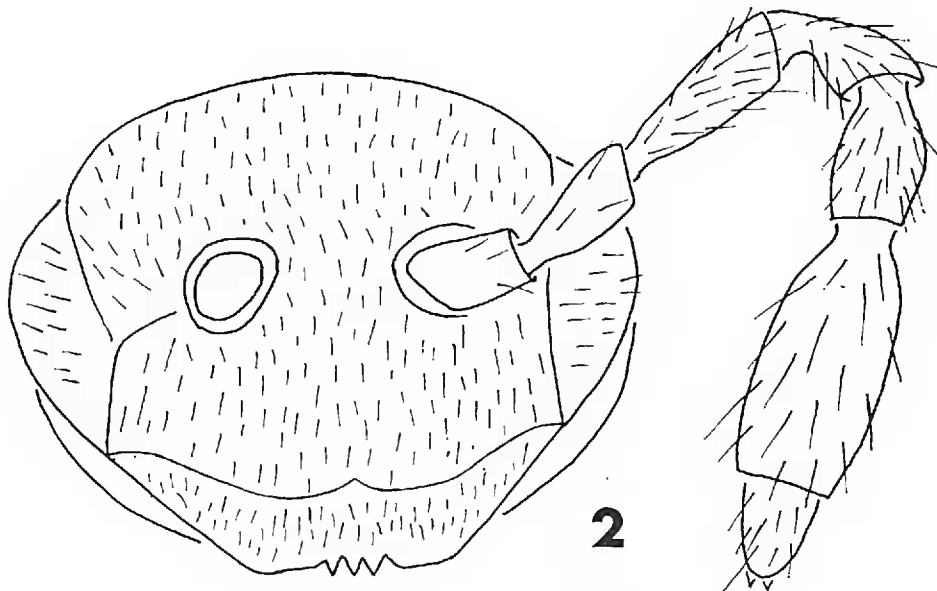
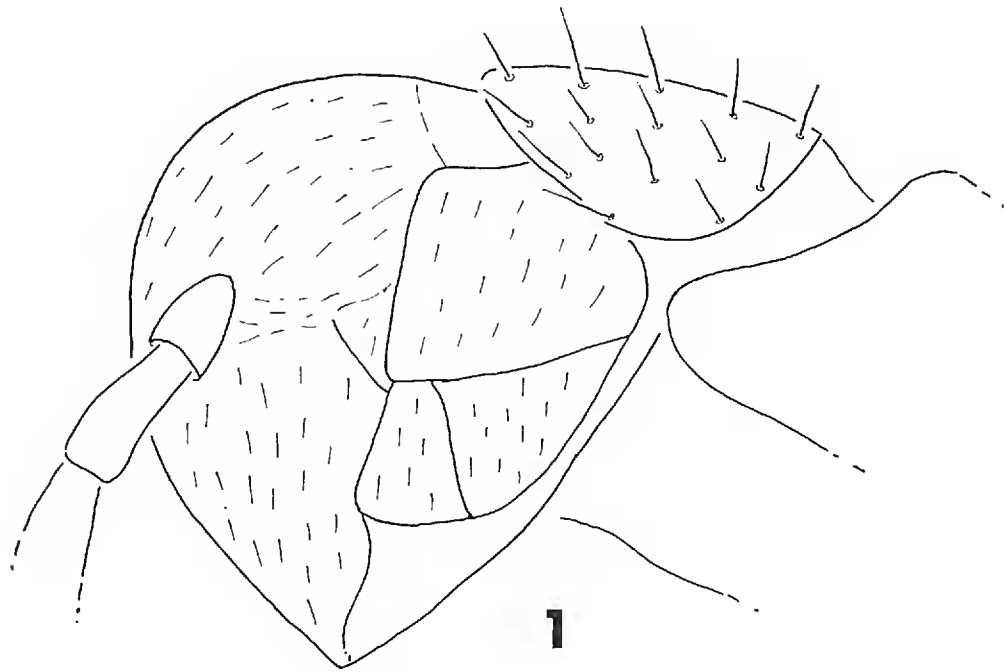
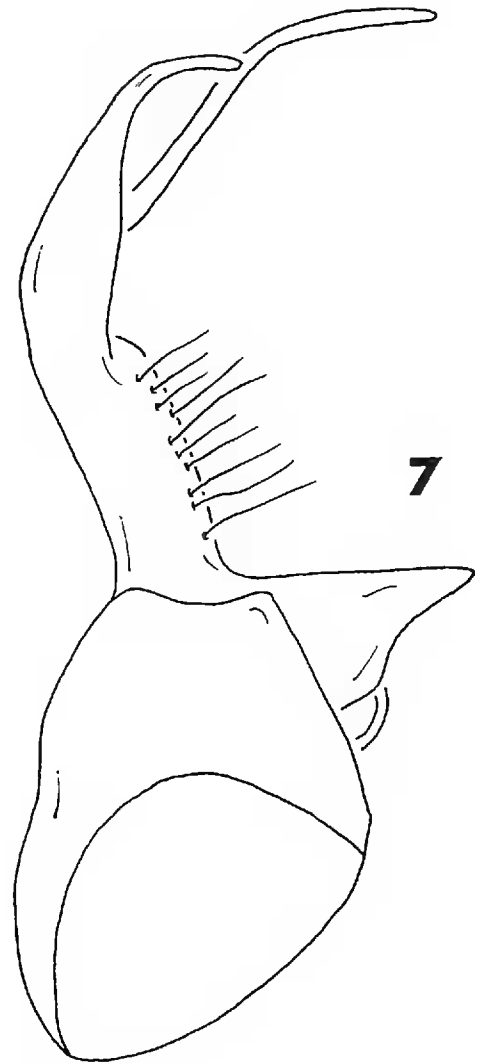
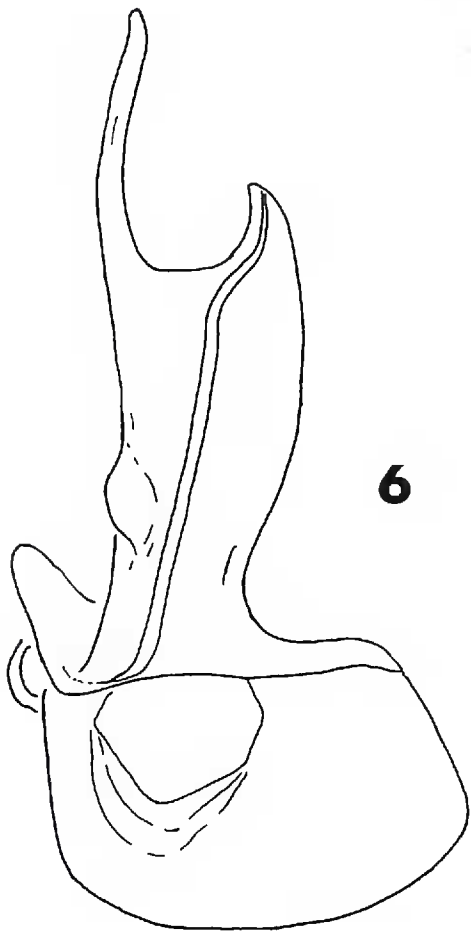
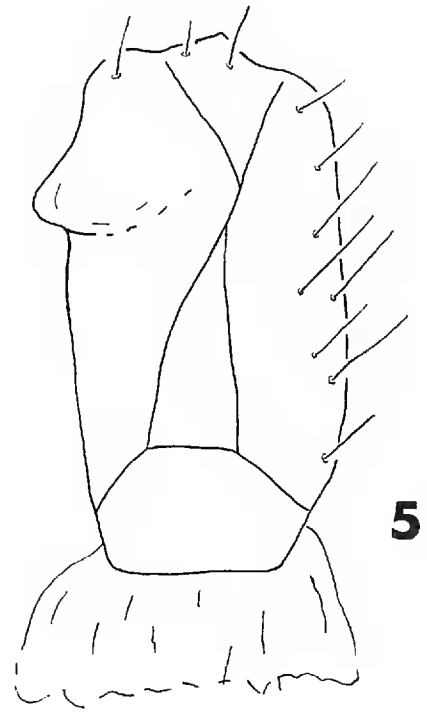
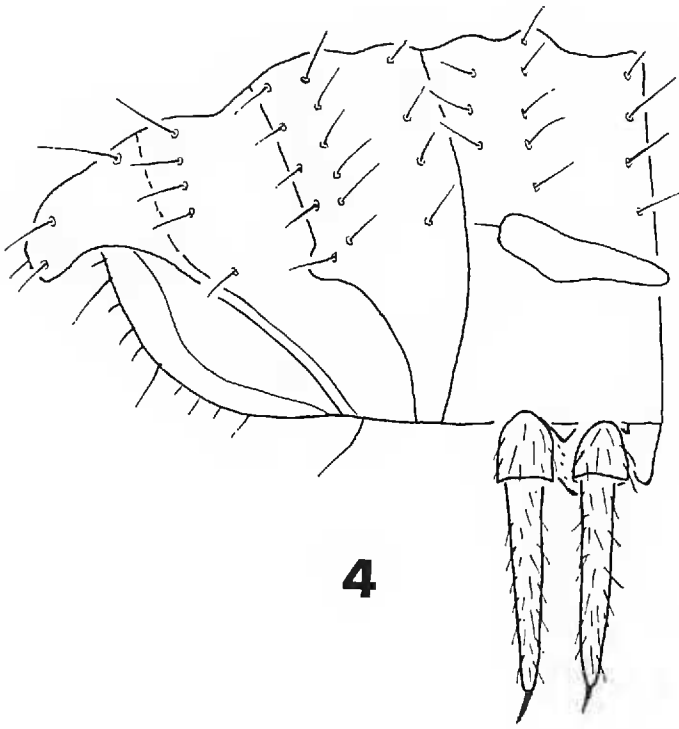


FIG. 1. Head, left lateral view, female paratype. FIG. 2. Head, anterior view, male paratype. FIG. 3. Sixth segment of male, dorsal aspect of paratype.



collum; epicranial suture short, distinct, dividing one-third distance to antennae, each resulting suture evident for same length as epicranial suture; head very round, strongly curved from vertex to labrum, densely microsetose, except posterior part of vertex smooth; antennae moderately long, reaching to segment 4 along margins of paranota; antennal sockets slightly sunken, separated by about width of 1 socket, deep dorsolateral antennal groove present; antennal segment 1 short, cylindrical, as broad as long; segment 2 slightly wider and longer than segment 1, enlarging apically; segment 3 slightly wider than segment 2, almost twice as long; segment 4 small, similar to segment 2; segment 5 as wide as segment 3, but shorter, considerably widening apically; segment 6 cylindrical, much the largest, equal in length to segments 4 and 5 combined, and wider by half again segment 5; apical segment same size as segment 1, rounded terminally, with terminal sense organs; all antennal segments with numerous short setae. Body cylindrical; dorsum rounded, paranota projecting from approximately mid body-height; prozonites micropunctate, otherwise smooth, broad, shallow groove extending entirely around segment between prozonite and metazonite; metazonite smooth except for setiferous tubercles; pleural area of metazonite slightly roughened, not punctate; sterna smooth, raised out from level of segment about 1 coxal radius in distance, median longitudinal groove present. Collum with posterior margin almost straight, narrower than width of head; anterior margin smooth, evenly curving, covering posterior part of head; collum slightly ventrally curved, lateral corners not extending below level of paranota of segment 2; dorsal surface crossed with 5 curving rows of setae, the first on anterior margin and composed of 12 setae; following rows with decreasing numbers. Tergites 2-18 with three regular transverse rows of setiferous tubercles: anterior row of 10 setae directed anterodorsad; middle row of 10 setae on posterior half of tergite and directed dorsad; posterior row with 8 setae and less well developed tubercles, situated near posterior margin of segment and projecting caudad; lateral margins of tergites serrate, each with 5 teeth and usually 4 horizontal setae on apices of teeth, anterior most tooth usually lacking seta; repugnatorial pore-bearing segments with rounded lateral protuberance replacing caudal 2 paranotal teeth on each side; pores opening dorsolaterally. Segment 7 with prozonite narrowing ventrally to form anterior margin of gonopod socket, metazonite forming posterior margin of socket, with narrow sclerotized bar passing immediately before gonopods and connecting laterally to metazonites, medial longitudinal sclerotized bar running between gonopods and connecting anteriorly on transverse bar and posteriorly on metazonite. Caudal segment with distinct mucro surpassing anal valves; anterior margin of segment with transverse row of about 6 setae, remainder of segment with 3 pair of dorsal setae, 2 pair of lateral setae, and 1 pair of distal terminal setae. Leg with coxa short, as broad as long; prefemur longer and about as wide as coxa; femur subconical, about 1.3 times length of prefemur; postfemur shorter than coxa and slightly narrower than femur; tibia about equal in length to coxa and narrower than postfemur; tarsus longer than femur, narrowing distad and bearing short tarsal claw; third leg with second segment slightly swollen and segment 3

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FIG. 4. Caudal three segments, lateral view, male paratype. FIG. 5. Right female cyphopod, ventral aspect. FIG. 6. Right male gonopod, anteroventral aspect, paratype. FIG. 7. Right male gonopod, lateral aspect, paratype.

very swollen, nearly twice width of succeeding segments, remainder of leg normal size and proportions. Gonopods with coxa large, extending partially out of socket; telopodite laminate, narrowing beyond base, then broadening, dividing apically into long, narrow mesal fork and shorter lateral fork (both directed caudad); narrow canal proceeding distad from coxa on center of anterior surface of gonopod, then abruptly curved to apex of lateral fork.

**SPECIMENS EXAMINED.**—*Holotype male*, 1 MILE NORTH OF MENDOCINO, MENDOCINO COUNTY, CALIFORNIA, 21 July 1964 (J. S. Buckett, M. R. Gardner, and J. R. Helfer). Paratypes: 2 males, 4 females, same data as holotype; 1 male, same locality and collectors as holotype, 21 December 1964.

**TYPE DEPOSITION.**—Holotype will be placed with the Department of Entomology, University of California, Davis. A paratype will be sent to the United States National Museum, Washington, D. C. Remainder of the paratypes will be retained by the authors.

The genus *Bidentogon* is the only 19 segmented North American vanhoeffeniid known to us, consequently its relationships are obscure at present. Superficially, it resembles the 20 segmented eastern genus *Antriadesmus* Loomis (1943, 1960), yet it remains strikingly different in the shape and complexity of the gonopods and the details of the external anatomical features. The gonopods resemble those of the 20 segmented Asian species *Mastodesmus zehntneri* Carl (1911) and *Lankadesmus cognatus* (Humbert, 1865). Any further statement as to the placement of *Bidentogon* at this time would be pure speculation; actual relationships will be determined only when more of the World fauna has been discovered and well described.

We take great pleasure in naming this species in honor of our friends, Jacques and Diane Helfer, who have significantly contributed to our knowledge with the many fine collections of millipeds they have made throughout our western states.

#### LITERATURE CITED

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